

Length 33.3, diam. above aperture 11.5 mm.; on the penult whorl 14 ribs.

*Explanation of Plate I follows; figures 1 to 9 are enlarged.*

Fig. 1. *Urocoptis elliotti* (Poey). Sierra Guane, coll. by J. B. Henderson. 95033 A. N. S. P.

Fig. 2. *Urocoptis lowei* Torre. Sierra Guane, coll. by H. N. Lowe. 141496.

Fig. 3. *Urocoptis dautzenbergiana* (Crosse). Sierra Paso Real. 73010.

Figs. 4, 5. *Urocoptis dautzenbergiana* (Crosse) var. Sierra Paso Real, coll. by H. N. Lowe. 141497.

Fig. 6. *Urocoptis handi* Torre. Mendoza Caves, coll. by H. N. Lowe.

Fig. 7. *Urocoptis dautzenbergiana*, var. *gemmata*. Mendoza Caves, coll. by H. N. Lowe and E. E. Hand. 141498.

Fig. 8. *Urocoptis vignalensis*, var. Mendoza Caves, coll. by H. N. Lowe. 141495.

Fig. 9. *Urocoptis vignalensis* (Wright & Pfr.). Vinales, coll. by E. E. Hand. 141888.

Fig. 10. *Cerion marielinum* Torre. Mariel Lighthouse, coll. by H. N. Lowe. 141505.

Fig. 11. *Cerion salvatori* Torre, Type. Jaimanitas. 132601.

Fig. 12. *Cerion salvatori* Torre, striate form. Playa de Santa Fé, Habana Prov., coll. by Lowe and Hand. 141507.

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#### MOLLUSK NOTES FROM THE NORTHWEST

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BY JUNIUS HENDERSON

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Assisted by various friends at various times, I spent the summer of 1925 in collecting mollusks and echinoderms in the Puget Sound Basin, Alaska, at Lake Atlin, in British Columbia, and at Cancross and White Horse, in Yukon Territory. As a result, nine large boxes full of material were shipped by freight to the University of Colorado Museum. Miss Elberta Craig, assistant in the Museum, has worked up most of this

material, with the help of specialists on some of it, and her report will probably appear in an early number of the University Studies. Meanwhile, from the great mass of material a few outstanding items here selected may be of interest to readers of THE NAUTILUS.

An *Anodonta* was found in considerable numbers in several lakes of the Puget Sound region. Having determined that it was not any species definitely known to occur there, Miss Craig sent examples to Dr. Bryant Walker, who identified them as *A. beringiana* Middendorff. Simpson (1914) gives the range of this species as Kamchatka and Alaska. Dall (1905) gives also the lower Yukon region and Mongolia. Hannibal's (1912) synonymy throws grave doubt upon his indefinite records from the Columbia and Fraser River systems, but the Puget Sound material makes at least the Fraser River seem within its range. Absence of definite records from between Puget Sound and Alaska forcibly reminds one that there is a vast area in the Northwest conchologically unknown. Very little has been done with the fresh-water faunas north of the Columbia River, in fact. It is an exceedingly inviting field.

No other Naiades were found during the entire season. *Sphaerium*, *Musculium*, *Pisidium*, *Ferrissia*, *Planorbis*, *Physa*, *Aplexa* and *Lymnaea* of various species were found in Puget Sound Basin, but the two first-named and *Ferrissia* are absent from the collections obtained farther north. *Pisidium*, as usual, was found in almost every pool and lake. *Ferrissia caurinus* (Cooper) we found only on the under sides of pond-lily pads. *Lymnaea stagnalis wasatchensis* Hemphill, described from Utah and hitherto recorded northward to the Mackenzie River drainage, we found in the Yukon drainage at Lake Atlin and White Horse, identified by Dr. F. C. Baker. *Valvata lewisi helicoides* Dall was obtained at the same localities, identified by Dr. Bryant Walker, as was also *Planorbis similaris* Baker, described from Colorado and found by us at Atlin.

On the entire trip we did not succeed in getting into any good localities for land snails. The only especially interesting form found is *Ariolimax columbianus maculatus* Ckll., a beautiful black-spotted variety from Whitby Island, in Puget Sound. The

fauna of small land snails at Skaguay in Alaska, and at White Horse and Atlin, Yukon Territory, so much resembled that of the Southern Rockies that it was difficult to believe that the aspen groves were not in Colorado. The following were obtained: *Gonyodiscus cronkhitei* (Newc.), *Euconulus fulvus alaskensis* (Pils.), *Succinea* sp., *Vitrea binneyana* Morse (?), *Zonitoides arborea* (Say), *Pupilla muscorum* (L.), *Vertigo modesta* Gould and *Agriolimax campestris* Say.

The marine faunas of the Northwest are much better known than the non-marine. We obtained a fine series at various localities between the mouth of the Skagit River and Deception Pass, and at Rosario on the open coast of the Straits of San Juan de Fuca, showing successive changes in the faunas as the water becomes progressively more saline to the westward. At Hikai Island, near the mouth of the river, the river water at low tide forces the salt water back and produces an almost fresh-water condition, with brackish water at high tide. Here but a few species are found—*Mya arenaria* L. (introduced), *Mytilus edulis* L., *Macoma balthica* (L.), *Littorina* and *Acmaea*. Working westward, where the water is less and less affected by the river and more nearly free from fine silt, more and more strictly marine species appear. In Deception Pass and at Rosario, with clear marine water, heavy surf and strong tidal currents, many species of marine gastropods are found, with a few of the smaller pelecypods, starfishes and sea-urchins.

On Big Hope Island, in Puget Sound, between Fidalgo and Whidby Islands, we found a fine Pleistocene deposit of marine shells that does not appear to have been reported. Though the formation is partly thoroughly consolidated, tilted to a high angle and raised many feet above the present high-tide level, the species contained, nearly 30 in number, were nearly all found also living within a few miles of the island, and the others still live somewhere on the Northwest Coast. The most interesting item, perhaps, is the abundance of *Petalconchus complicatus* Dall and *Mya truncata* (L.), neither of which I found alive anywhere, though a few fresh valves of the latter were found on beaches of Alaska. The fossil specimens of *Pecten islandicus pugetensis* Oldroyd (identified by Dall) are all very

much larger than the type, many reaching a length of 77 mm. The fossil *Schizothaerus* is *S. nuttalli maxima* (Middendorf), distinguished by its more rotund form from the one living on near-by beaches, *S. n. capax* (Gould). *Trichotropis cancellatus* (Midd.) var. is, according to Dr. Dall, the same as a variety he has recent from Alaska. Mrs. Oldroyd (1924) gives the range of *cancellatus* as from Bering Sea to Oregon, and she records it from off the San Juan Island coast in from 15 to 25 fathoms of water. The variety is common in the fossil collection from Big Hope.

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#### THE RACES OF HELMINTHOGLYPTA AYRESIANA

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BY H. A. PILSBRY

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During a recent visit Mr. H. N. Lowe called my attention to the variations of *H. ayresiana* on the various Santa Barbara Channel Islands.

The original locality of *H. ayresiana*, "Nootka Sound," was of course erroneous, but as the specimens from San Miguel Island, the western of the Santa Barbara Channel Islands, agree with the description in form, sculpture and number of whorls, that place may be considered the type locality. These shells are solid, earthy, more or less costulate irregularly, with from fully 6 to nearly 7 closely coiled whorls. The dark band has very indistinct light borders, or these may not be apparent.

Hemphill<sup>1</sup> distinguished the Santa Cruz Island form as a variety; later he applied a name, which appears on some labels but was not published. This form seems to be at least sub-specifically distinct.

#### HELMINTHOGLYPTA AYRESIANA SANCTÆCRUCIS, new subsp.

The shell is somewhat more depressed, thinner and darker colored than *ayresiana*, snuff-brown to clay color, with a carob-brown band with distinct pale borders (in specimens lacking the thin periostracum the color is between light pinkish cinna-

<sup>1</sup> Zoe I, 1890, p. 331.